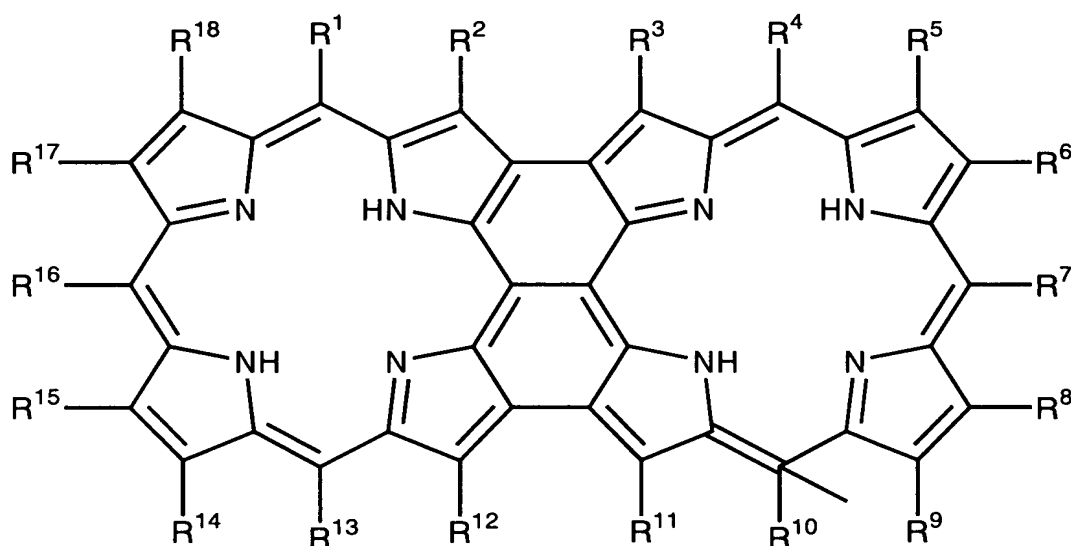


Claims:

1. A dye-sensitized type photoelectric conversion device comprising:
 - a semiconductor layer on which a sensitizing dye having an acidic group-containing porphyrin polymer expressed by a below-described general formula (1) as a skeleton of a base is carried and
 - an electrolyte layer between counter electrodes.

General Formula (1):

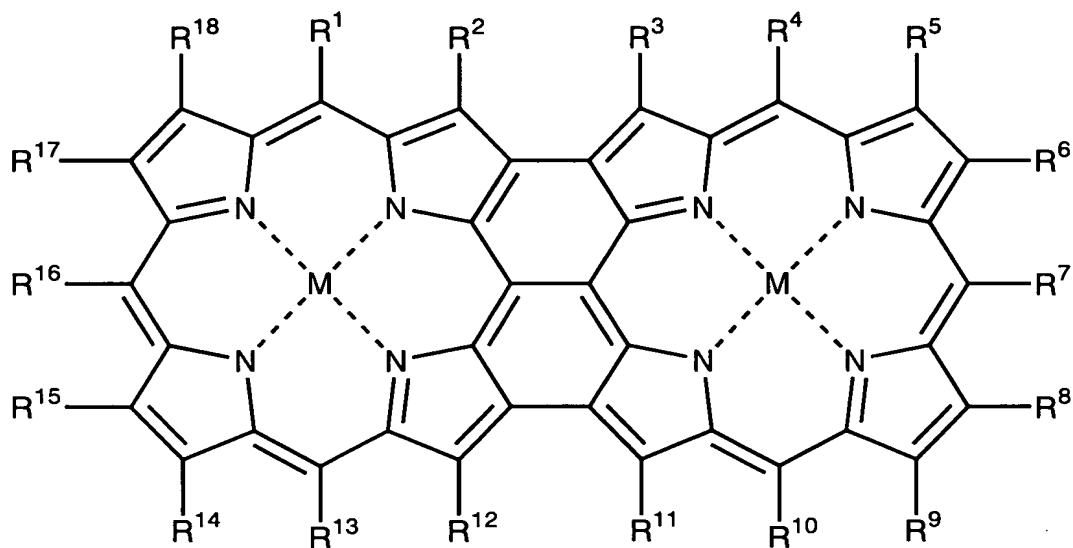


(Here, in the above-described general formula (1), R^1 to R^{18} may be the same or different and indicate hydrogen atoms or arbitrary substituents. In this case, at least one of R^1 to R^{18} is an acidic substituent.)

2. A dye-sensitized type photoelectric conversion device comprising:
 - a semiconductor layer on which a sensitizing dye having an acidic group-containing porphyrin polymer expressed by a below-described general

formula (2) as a skeleton of a base is carried and
an electrolyte layer between counter electrodes.

General Formula (2):

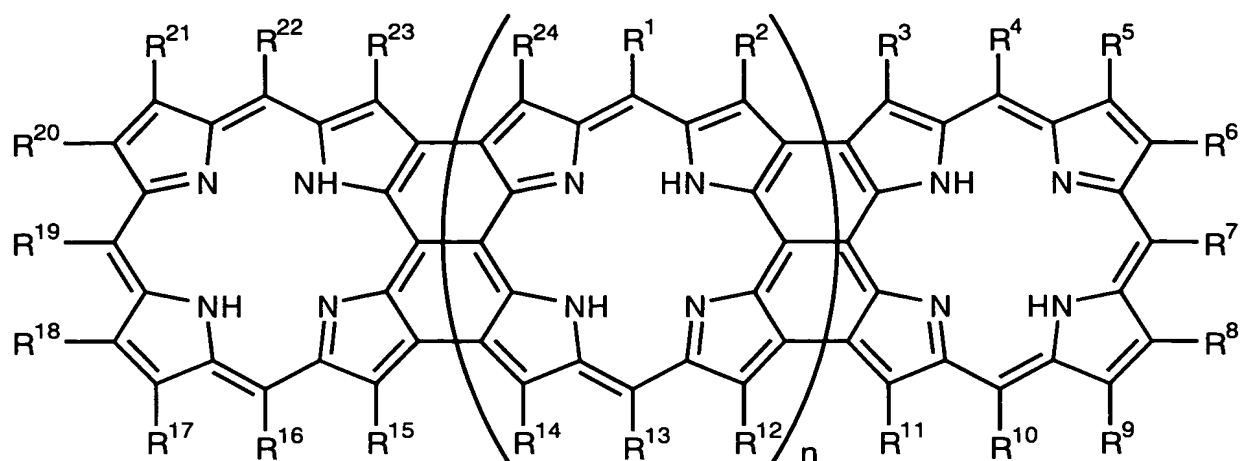


(Here, in the above-described general formula (2), R¹ to R¹⁸ may be the same or different and indicate hydrogen atoms or arbitrary substituents. In this case, at least one of R¹ to R¹⁸ is an acidic substituent. Further, a group of metals represented by M is arbitrary kinds of metals.)

3. A dye-sensitized type photoelectric conversion device comprising:

a semiconductor layer on which a sensitizing dye having an acidic group-containing porphyrin polymer expressed by a below-described general formula (3) as a skeleton of a base is carried and
an electrolyte layer between counter electrodes.

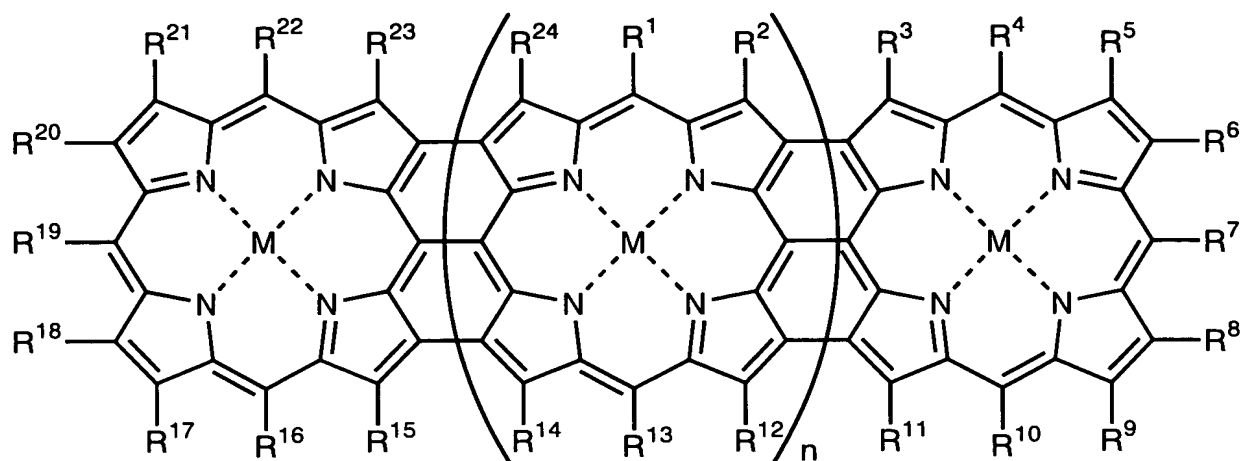
General Formula (3):



(Here, in the above-described general formula (3), R^1 to R^{24} may be the same or different and indicate hydrogen atoms or arbitrary substituents. In this case, at least one of R^1 to R^{24} is an acidic substituent. Further, n is an integer not smaller than 1.)

4. A dye-sensitized type photoelectric conversion device comprising:
 - a semiconductor layer on which a sensitizing dye having an acidic group-containing porphyrin polymer expressed by a below-described general formula (4) as a skeleton of a base is carried and
 - an electrolyte layer between counter electrodes.

General Formula (4):



(Here, in the above-described general formula (4), R^1 to R^{24} may be the same or different and indicate hydrogen atoms or arbitrary substituents. In this case, at least one of R^1 to R^{24} is an acidic substituent. Further, a group of metals represented by M is arbitrary kinds of metals. n is an integer not smaller than 1.)

5. The dye-sensitized type photoelectric conversion device according to any one of claim 1, 2, 3 or 4, wherein the acidic substituent is a carboxyl group, a sulfonic group, a hydroxyl group, 4-carboxyphenyl group or the like.

6. The dye-sensitized type photoelectric conversion device according to any one of claim 1, 2, 3 or 4, wherein R^1 to R^{18} of the general formula (1) or (2) or R^1 to R^{24} of the general formula (3) or (4) indicate substituents such as hydrogen atoms, halogen atoms, mercapto groups, amino groups, nitro groups, cyano groups, carboxyl groups, sulfonic groups, hydroxyl groups, substituted or non-substituted alkyl groups, substituted or non-substituted aryl groups, substituted or non-substituted alkoxy groups, substituted or non-substituted aryloxy groups,

substituted or non-substituted alkylthio groups, substituted or non-substituted arylthio groups, substituted or non-substituted alkylamino groups, substituted or non-substituted arylamino groups, substituted or non-substituted carboxylic ester groups, substituted or non-substituted carboxylic amide groups, substituted or non-substituted sulfonic ester groups, substituted or non-substituted sulfonic amide groups, substituted or non-substituted carbonyl groups, substituted or non-substituted silyl groups, substituted or non-substituted siloxy groups; and at least one of R^1 to R^{18} or at least one of R^1 to R^{24} is the acidic substituent such as a carboxyl group, a sulfonic group, a hydroxyl group, a 4-carboxyphenyl group or the like.

7. The dye-sensitized type photoelectric conversion device according to claim 1 or 4, wherein the group of metals represented by M in the general formula (2) or (4) includes one kind or two or more kinds of metals selected from a group including Zn, Mg, Ca, Sr, Ba, Sc, Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ti, Zr, Hf, V, Nb, Ta, Th, U, Cr, Mo, W, Mn, Tc, Re, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Cd, Hg, Al, Ga, In, Tl, Si, Ge, Sn, Pb, As, Sb and Bi.

8. The dye-sensitized type photoelectric conversion device according to any one of claims 1 to 4, wherein the semiconductor layer is composed of an oxide semiconductor.

9. The dye-sensitized type photoelectric conversion device according to any

one of claims 1 to 4, wherein the semiconductor layer carries a sensitizing dye made of at least two kinds of the acidic group-containing porphyrin polymer expressed by the general formula (1), (2), (3) or (4).

10. The dye-sensitized type photoelectric conversion device according to any one of claims 1 to 4, wherein the semiconductor layer carries a sensitizing dye made of at least one kind of the acidic group-containing porphyrin polymer expressed by the general formula (1), (2), (3) or (4) and other sensitizing dyes such as a ruthenium bipyridine complex, a chlorophyll derivative, a zinc complex of porphyrin or the like.

11. The dye-sensitized type photoelectric conversion device according to any one of claims 1 to 4, wherein the semiconductor layer and the electrolyte layer are provided between a transparent base having a transparent conductive film and a conductive base serving as a counter electrode of the transparent base, and electric energy is generated between the transparent conductive film and the conductive base by a photoelectric conversion.

12. The dye-sensitized type photoelectric conversion device according to claim 11, wherein the dye-sensitized type photoelectric conversion device is a dye-sensitized type solar cell.